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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/625,467

07/23/2003

Peter Graf

003-071

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36844 7590 03/05/2007

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EXAMINER

KIM, TAE JUN

ART UNIT

PAPER NUMBER

3746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/625,467

Applicant(s)

GRAF ET AL.

Examiner

Ted Kim

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6-9, 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Snyder (2002/0116929). Snyder teaches an annular combustor for a gas turbine, comprising a wall, an inlet side, and an outlet side, the inlet side configured and arranged to accept burners 76 opening on the inlet side, the combustor extending in an axial direction from the inlet side to the outlet side, cooled liner segments 46, 48, 60, 62 lining sides of the wall for protection from hot gases, wherein the liner segments are subdivided in the axial direction into a plurality of parts arranged one behind the other; wherein the liner segments 46, 48 and 60, 62 are subdivided into two parts; wherein the liner segments are subdivided where the flow velocity of the hot gases is low; wherein the liner segments are subdivided in such a way that the lengths of the individual segment parts in the axial direction are approximately the same; a plurality of segment carriers 50, 44 and 64, 66 the liner segments are fastened to the segment carriers, the segment carriers

50, 44 and 64, 66 are being subdivided in the axial direction into a plurality of parts; wherein the liner segments are convection-cooled (see Fig. 3); wherein the subdivided liner segments are separately convection-cooled; the cooling medium flowing through those parts of the liner segments which are situated downstream, the cooling medium being released into the hot-gas flow of the combustor; wherein parts of the liner segments 48, 62 which are located downstream are cooled only by part of the mass flow provided overall for the cooling of the liner segments; at least burner 76 positioned at the inlet side.

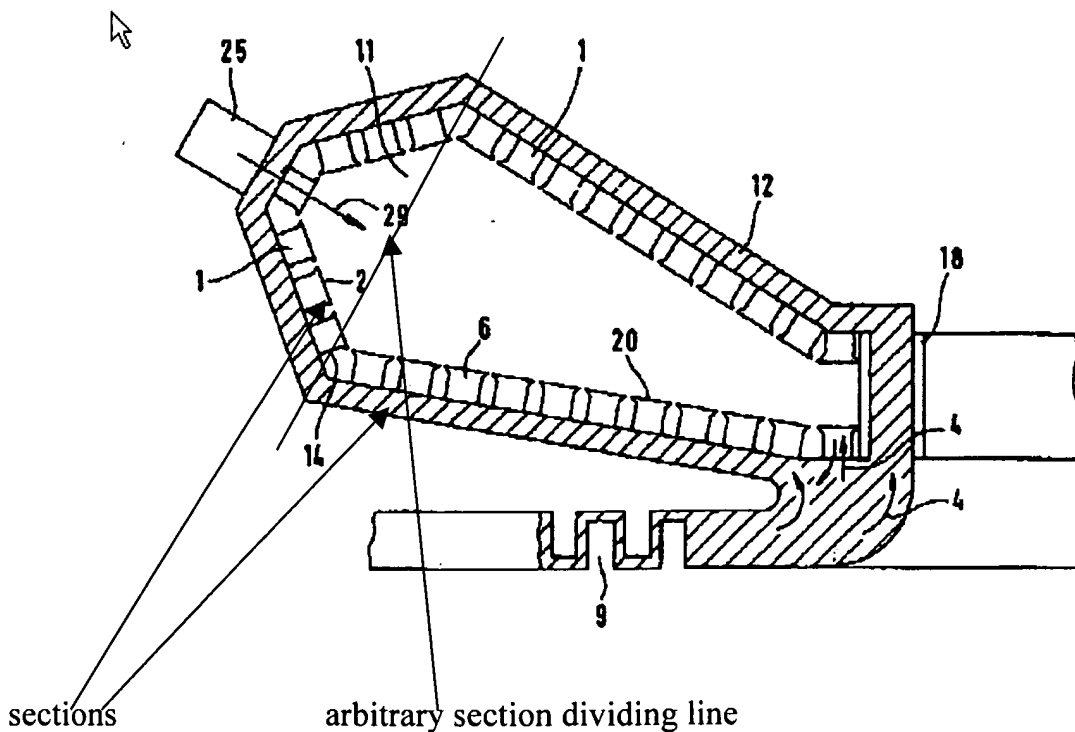
3. Claims 1-4, 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 3435611. DE '611 teaches an annular combustor for a gas turbine, comprising a wall, an inlet side, and an outlet side, the inlet side configured and arranged to accept burners 14, 16 opening on the inlet side, the combustor extending in an axial direction from the inlet side to the outlet side, cooled liner segments 32a, 32b and 34a, 34b and lining sides of the wall for protection from hot gases, wherein the liner segments 32a, 32b and 34a, 34b are subdivided in the axial direction into a plurality of parts arranged one behind the other; wherein the liner segments are subdivided into two parts; wherein the liner segments are subdivided where the flow velocity of the hot gases is low; wherein the liner segments are subdivided in such a way that the lengths of the individual segment parts in the axial direction are approximately the same; a plurality of segment carriers 26a, 26b and 28 (two pieces), the liner segments are fastened to the segment carriers, the segment carriers 26a, 26b and 28 (two pieces) are being subdivided in the axial direction into a plurality of parts; wherein the liner segments are convection-cooled; wherein the subdivided liner

segments are separately convection-cooled; the cooling medium flowing through those parts of the liner segments which are situated downstream, the cooling medium being released into the hot-gas flow of the combustor; transition channels provided between the subdivided liner segments, through which transition channels 88 the convectively cooling medium can flow from one part of the liner segments 40 into the other part of the liner segments 46 (see Fig. 3, note that applicant does not define where the cooling occurs); wherein parts of the liner segments which are located downstream are cooled only by part of the mass flow provided overall for the cooling of the liner segments; at least burner 14, 16 positioned at the inlet side

4. Claims 1-4, 6, 7, 9, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Gross et al (6,047,552). Gross et al teach an annular combustor 11 for a gas turbine, comprising a wall, an inlet side, and an outlet side, the inlet side configured and arranged to accept burners 25 opening on the inlet side, the combustor extending in an axial direction from the inlet side to the outlet side, cooled liner segments 1 lining sides of the wall for protection from hot gases, wherein the liner segments are subdivided in the axial direction into a plurality of parts arranged one behind the other; wherein the liner segments 2 are subdivided into two parts; wherein the liner segments are subdivided where the flow velocity of the hot gases is low, i.e. where the cross section is largest and thus inherently where the velocity is lowest; wherein the liner segments are subdivided in such a way that the lengths of the individual segment parts in the axial direction are approximately the same; a plurality of segment carriers, the liner segments are fastened to

Art Unit: 3746

the segment carriers, the segment carriers are being subdivided in the axial direction into a plurality of parts; wherein the liner segments are convection-cooled; wherein the subdivided liner segments are separately convection-cooled (see Fig. 3); the cooling medium flowing through those parts of the liner segments which are situated downstream; transition channels 5 provided between the subdivided liner segments, through which transition channels 5 the convectively cooling medium can flow from one part of the liner segments into the other part of the liner segments; at least burner 25 positioned at the inlet side.



5. Claims 1-4, 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 19727407. DE '407 teaches an annular combustor for a gas turbine, comprising a wall, an inlet side, and an outlet side, the inlet side configured and arranged to accept burners 2

opening on the inlet side, the combustor extending in an axial direction from the inlet side to the outlet side, cooled liner segments 3, 7 lining sides of the wall for protection from hot gases, wherein the liner segments are subdivided in the axial direction into a plurality of parts arranged one behind the other; wherein the liner segments are subdivided into two parts; wherein the liner segments are subdivided where the flow velocity of the hot gases is low; wherein the liner segments are subdivided in such a way that the lengths of the individual segment parts in the axial direction are approximately the same; a plurality of segment carriers, the liner segments are fastened to the segment carriers, the segment carriers are being subdivided in the axial direction into a plurality of parts; wherein the liner segments are convection-cooled (Fig. 3); wherein the subdivided liner segments are separately convection-cooled; the cooling medium flowing through those parts of the liner segments which are situated downstream, the cooling medium being released 8 into the hot-gas flow of the combustor; transition channels (e.g. for flow about 9) provided between the subdivided liner segments, through which transition channels the convectively cooling medium can flow from one part of the liner segments into the other part of the liner segments; wherein parts of the liner segments which are located downstream are cooled only by part of the mass flow provided overall for the cooling of the liner segments; at least burner 2 positioned at the inlet side.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder (2002,0116929) in view of Luffy et al (5,435,127). Snyder teaches various aspects of the claimed invention but do not teach a transition section for allowing cooling medium from flowing from one part of the liner segments into the other part of the liner segments. Luffy et al teach transition channels 58 provided between the subdivided liner segments 54 and 60, through which transition channels the convectively cooling medium can flow from one part of the liner segments 54 into the other part of the liner segments 60 for cooling thereof in a gas turbine engine. It would have been obvious to one of ordinary skill in the art to provide transition channels, as taught by Luffy et al, in order to facilitate continued use of the cooling fluid and thus reduce the overall amount of cooling fluid required.

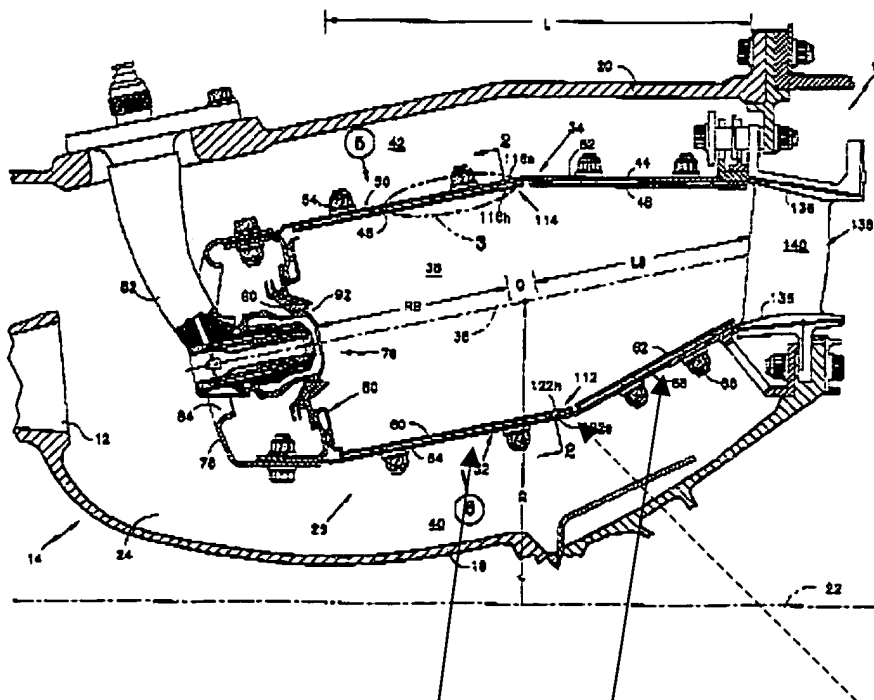
***Response to Arguments***

8. Applicant's arguments filed 12/08/2006 have been fully considered but they are not persuasive.

9. Applicant's arguments boil down to the meaning of "a plurality of segment carriers, the liner segments being fastened to the segment carriers, the segment carriers being subdivided in the axial direction into a plurality of parts." Applicant's arguments are not persuasive as they rely on an overly narrow construction of the claim limitations,



even arguing that the disclosed invention has separate pieces which are sealed by means of e.g. two seals. However, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the seals, the segment carriers being separated) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the claim limitations only require that the plurality of segment carriers be subdivided in the axial direction into a plurality of parts. Hence, each of the applied references teach the segment carriers have multiple portions. For instance in Snyder, the segment carriers can be fairly construed as below even if the segment carriers are joined (there is no requirement that the portions be separated or sealed as argued by applicant).



segment carriers    segment carrier dividing point

Furthermore for the DE '611 (Scott) reference, the sections 26a, 26b being welded together by welding seam 90, each section 26a, 26b is clearly a segment – they even have their own reference numbers.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax number for the organization where this application is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at 571-272-4828. Alternate inquiries to Technology Center 3700 can be made via 571-272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



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March 1, 2007	Fax (After Final)	571-273-8300
Technology Center 3700	Telephone	571-272-3700

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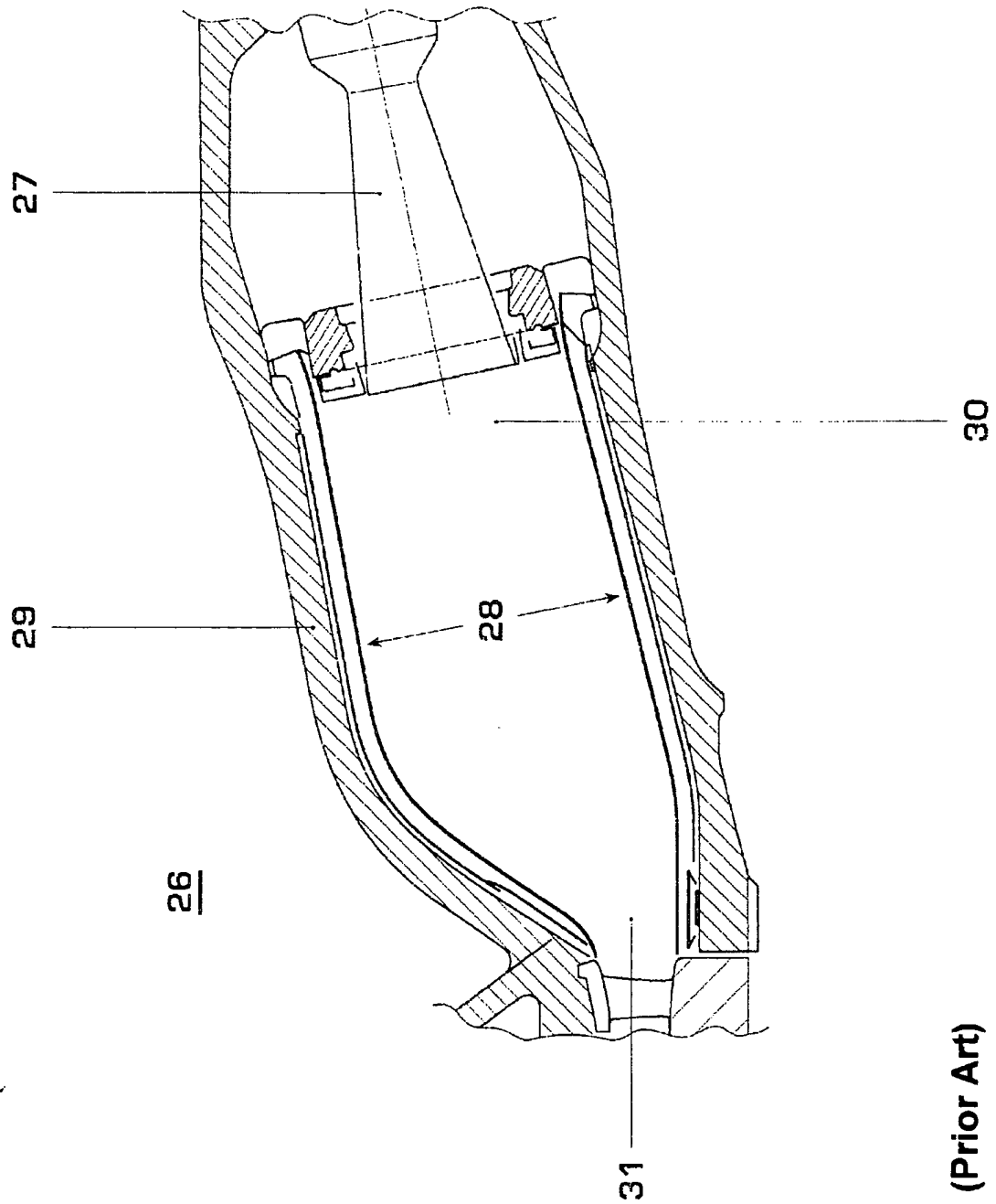


Fig. 3 (Prior Art)

Entry  
Approved

mu  
2/27/07